FIS919990263US2

10/659,778

- 20. (Currently Amended) A metallization insulating structure, comprising:
 - a substantially planar substrate having wires therein;
 - a first layer, the first layer a substantially fluorine free insulating layer formed on the substrate, having a height, hi;
 - a second layer, the second layer a fluorine containing insulating layer formed directly on the first layer, having a height hf;
 - a metal structure of at least height hi + hf formed in the first and second layer, the metal structure extending to a substantially planar the substrate, the metal structure comprising a line and a via, a bottom of the line and an upper portion of the via contacted by the second layer.
- 21. (Previously Presented) The metallization insulating structure of claim 20 further comprising a capping layer on the substrate, underlying the first layer.
- 22. (Previously Presented) The metallization insulating structure according to claim 20 wherein the fluorine containing insulating layer comprises a material selected from the group consisting of fluorinated silicon oxide, fluorinated amorphous carbon, fluorinated diamondlike carbon and fluorinated organic polymers.
- 23. (Previously Presented) The metallization insulating structure according to claim 20 wherein the substantially fluorine free insulating layer comprises undoped silicon glass.
- 24. (Previously presented) The metallization insulating structure according to claim 21 wherein the capping layer comprises a material selected from the group consisting of silicon nitride, silicon carbide and hydrogenated silicon carbide, or combinations thereof.

Claims 25-26 (Cancelled)

FIS919990263US2

10/659,778

27. (Previously presented) The metallization structure of claim 21, wherein the metal structure extends through the capping layer such that the height of the structure is greater than hi+hf.

Claim 28 (Canceled)

- 29. (Previously presented) The structure of claim 21 wherein the metal structure is in contact with the underlying wires through the capping layer.
- 30. (New) The structure of claim 20, a middle portion of the via contacted by the first layer.
- 31. (New) The structure of claim 30, a lower portion of the via contacted by one of the first layer and a capping layer.
- 32. (New) The structure of claim 20, the line having a height hi less than the height of the second layer hf.
- 33. (New) The structure of claim 32, the via having a height hv greater than the height of the first layer hi.
- 34. (New) The structure of claim 33, the metal structure having a height ht equivalent to height of the line hl plus the height of the via hv.
- 35. (New) The structure of claim 34, wherein the height of the first layer hi is substantially less than the height of the via hv.